

# TN-58

AWS A5.5 E8018-C3  
EN ISO 2560-A-E 46 4 1Ni B 1 2  
JIS Z 3211 E5518-N2

## Characteristics and Applications:

TN-58 is an iron powder low hydrogen electrode for the welding of low temperature service steel in all positions. The weld metal contains 1.0%Ni. It is suitable for the welding of LPG tanks. The welding can be done with good X-ray soundness, high deposition rate, and good impact value at -40°C. Proper base metals are also including high-carbon steel, low Manganese alloy steel, 540~610N/mm<sup>2</sup> high tensile steel, cast iron, steel pipe for low temperature service, pressure vessel, ASTM A225 Gr D/A333 Gr1&6/A607 Gr60/A707 Gr.L5.L6, etc..

## Notes on usage:

1. Be sure to clean up the contaminations on the base metal and welding seam so as not to derogate the weld metal quality from particles.
2. Maintain short arc length. Moving range should be controlled within 3 times of the wire's dia when you are welding with weave method.
3. Dry the electrodes at 350~400°C for 60 minutes before use. Take out a batch of half day consumption and keep at 100~150°C during welding process.
4. Do not exceed the range of recommended current. Over heat input might decrease the impact value.
5. Pre-heat at 50~100°C while in welding thick plate.

## Typical chemical composition of weld metal (wt%):

	C	Mn	Si	P	S	Ni	Cr	Mo	V	Cr	Nb	Cu
AWS	≤0.12	0.40-1.25	≤0.80	≤0.03	≤0.03	0.80-1.10	≤0.15	≤0.35	≤0.05	-	-	-
EN ISO	-	≤1.4	-	-	-	0.6-1.2	≤0.2	-	≤0.05	≤0.2	≤0.05	≤0.3
Typical value	0.07	0.90	0.5	0.018	0.007	1.0	0.026	0.002	0.015	0.027	0.004	0.02

## Typical mechanical properties of weld metal:

	Yield strength MPa(ksi)	Tensile strength MPa(ksi)	Elongation %	Charpy V-Notch J (ft-lbf) -40°C (-40°F)
AWS	≥470(68)	≥550(80)	≥24	≥27(20)
EN ISO	≥460(67)	530-680(77-99)	≥20	≥47(35)
Typical value	520(75)	600(87)	30	130(96)

## Welding position:



## Sizes and recommended operating range (AC or DC <+>):

Diameter (mm)	3.2	4.0	5.0
Length (mm)	350	450	450
Current (Amps)	F	100-140	140-180
	V&OH	80-110	130-160
			180-230
			-

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